Remarks

Status of the Application

Claims 1-20 are active. Claims 1, 4, 8, 11, 15, 16 and 19 are herein amended. Claims 1, 8, 15 and 16 are independent claims

Claims 1-20 were rejected under 35 USC §103 as unpatentable over Bartholomew et al. (U.S. 6,622,064) in view of Baker et al. (U.S. 6,980,888). The Examiner indicates Bartholomew et al. to disclose a dispensing machine for cosmetics with a computer display and dispenser for formulating nail polish solution. The Examiner indicates Baker et al. to disclose displaying changes to an existing hair color, indicating the changes to the existing hair color and choosing at least one hair color dye to mix with other dyes. The Examiner indicates it would have been obvious to display information regarding the hair coloration process as taught by Baker et al., on the Bartholomew et al. display, for informing customers of coloration results.

Claim 15 was objected to based upon a now-corrected typographical error.

Applicants respectfully traverse the Examiner's interpretations and assertions regarding the references for the reasons set out below. Applicants note initially and foremost that Baker et al. does not teach mixing of hair color dyes, but rather the selection of a packaged commercial product. Applicants further submit the rejection to be moot in view of this amendment.

Amendments To The Claims

Independent claims 1, 8, 15 and 16 have each been amended to recite:

- the dyes as mixable dyes for altering hair color,
- the optional changes to existing hair color as obtainable through the use of a custom-mixed hair colorant, and
- the selecting of the dye as based on the existing hair color and the desired change to the existing hair color and as at least one selected dye and a selected formulation chemical for custom-mixing into a hair colorant.

For the convenience of the Examiner, exemplary claim 1 as amended is set out below. The remaining independent claims have been similarly amended.

1. (Currently amended) Apparatus for formulating a hair colorant,

comprising:

a plurality of mixable dyes for altering hair color;

means for receiving from a customer an indication of an existing hair color;

means for visually displaying to the customer a plurality of optional changes to the existing hair color obtainable through the use of a custom-mixed hair colorant;

means for receiving from the customer, responsive to the means for visually displaying, an indication of a desired change to the existing hair color; and

means for selecting from the plurality of dyes, based on the existing hair color and the desired change to the existing hair color, at least one selected dye and a selected formulation chemical for custom-mixing into a hair colorant.

Claim 15 has been amended to address the Examiner's objection. Minor amendments have been made to dependent claims 4, 11 and 19 to make them consistent with the corresponding amended independent claims.

All amendments find support in the specification; no new matter has been added.

Applicant's Response

Applicants' invention provides to customers methods and apparatus for identifying a desired change to an existing hair color and substantially immediately obtaining a custom-mixed hair color formulation to achieve that change. As noted in the specification, Applicant's invention has numerous benefits in retail and service environments, enabling large stocks of pre-mixed formulations to be replaced with a relatively small and cost-effective apparatus.

With respect first to Bartholomew et al., Applicants note and the Examiner agrees the machine taught is for nail polish formulation. The Examiner indicates the formulation and dispensing of hair treatments to be functionally equivalent to nail polish. While the mechanical dispensing of nail polish may be functionally equivalent to the mechanical dispensing of a hair treatment in some respects, Applicants submit this is not so with respect to the selection and formulation of the dye and chemical components. Nail polish is recognized in the art to be generally opaque and substantially any nail polish color can cover any other nail polish color to provide a predictable result. In contrast, hair colorant formulations are not opaque, not all color changes are obtainable and custom formulations are more complex being based not just upon the

desired change but also upon the existing hair color. Hair color dye selection and formulation is thus not functionally equivalent to nail color dye formulation.

See, for example, the following quotes from Bartholomew et al.:

> In one embodiment, a user can match a color with a preexisting desired color. For instance, one preferred approach to color matching is to employ a spectrophotometer, and particularly, a portable one such as that commercially available from GretagMacbeth (e.g., SPECTROLINO.TM.), X-Rite, Inc., Datacolor (e.g., MICROFLASH.RTM.SPECTROPHOTOMETERS). *[Column 5, lines 6-13]*

> Once the customer selects a color, the customer enters the selection into the computer. The computer retrieves information about the color from a database, and specifically a recipe for the color, identifying the relative proportions of tones, shades, or hues of colors or pigments that must be added to achieve the desired color. This information is communicated to the dispenser, which then dispenses the correct amounts pursuant to the recipe communicated from the database for the color choice. *[Column 14, line 65 – Column 15, line 6]*

Of course, spectrophotometry cannot be used to select a hair dye, because the results of applying the dye to the hair do not reflect the absolute color of the dye. Further, hair dye formulation cannot be based upon just the selected color, as described, again because hair dye formulation requires significantly more consideration of variables. Bartholomew et al. thus teaches the straightforward selection of a nail polish color and mixing of that color. Bartholomew et al. does not show or suggest any teachings regarding hair color dye formulation, much less the invention of selecting and mixing custom hair color dyes as taught and claimed by Applicants.

Baker et al. shows machines and systems for assisting a customer in selecting an **off-the-shelf** hair colorant. Applicants' respectfully disagree with the Examiners characterization of Baker et al. as teaching any mixing. See for example:

> The invention relates to a method and apparatus for predicting the result of coloration of a substrate by a coloring product. The method and apparatus are especially suitable for quickly and easily determining the result of a cosmetic coloration of a substrate such as hair, skin or nail by a **commercial product**. *[Column 1, lines 7-12; emphasis added]*

> The methods and apparatus according to the present invention may be used for quickly and simply predicting the result of the coloration of any type of substrates with any type of coloring products, and is especially suited for being used for predicting the result of the coloration of human hair with hair dye products. **Several brands coexist on the hair dye markets, and each brand may encompass dozens of different products. The methods and apparatus according to the present invention are especially useful in department stores where a large choice of different hair dye products is available.** *[Column 3, lines 49-59; emphasis added]*

Applicants submit the references are not properly combinable because i) the hair dye colorants of Bartholomew et al. are completely formulated, off-the-shelf products not functionally interchangeable with the nail color dyes of Baker et al., and ii) Bartholomew et al. teaches away from custom mixing by directing the selection of a commercial product.

Even if the references were combined, they do not teach the invention as recited in the amended claims. More specifically, Applicants have amended the claims to more clearly distinguish the invention over the references, the amended claims now reciting i) a plurality of mixable dyes for altering hair color, not shown in either reference, ii) visually displaying to the customer a plurality of optional changes to the existing hair color obtainable through the use of a custom-mixed hair colorant, not shown in either reference, and iii) selecting, from the plurality of dyes, based on the existing hair color and the desired change to the existing hair color, at least one selected dye and a selected formulation chemical for custom-mixing into a hair colorant, again not shown in either reference.

Thus, even if the references are combined, neither reference shows or suggests, singly or in combination, the claimed invention.

In summary, the invention solves a problem not addressed in the prior art, the ability to custom-mix hair dye formulations responsive to the selection of a result available by such custom formulation by a customer. The invention has significant advantages over the prior art, for example enabling a retail or service environment to provide a broader, more useful selection of hair colorants using significantly less resources and at lower cost. The distinguishing features of the invention are clearly recited in the amended claims.

The amendments made herein are without prejudice to expedite prosecution at this time. Applicants expressly reserve the right to pursue the original claims and/or broader claims at another time.

Applicants submit the patentability of the dependent claims, both individually and as dependent on allowable independent claims. Applicants expressly reserve the right to argue the independent claims individually.

For these reasons, it is respectfully submitted that the invention as claimed is patentable over the art of record. Entry of this amendment and a timely allowance of the active claims are respectfully requested.

The Examiner is invited to telephone Applicants' attorney at the number indicated below if such communication would facilitate the examination of the application.

Authorization

If the Commissioner determines that an additional fee is due, Applicants' attorney authorizes the Commissioner to charge any required fee, or credit any overage, to deposit account 50-3834.

Respectfully submitted,

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